

### **REMARKS**

Applicant thanks the Examiner for the thorough examination given the present application.

#### **Status of the Claims**

Claims 1-19 are pending in the above-identified application with claims 7-15 currently withdrawn from consideration. Claims 1 and 7 have been amended herein. Support for the recitations of "a transparent coating layer" can be found in the present specification, *inter alia*, at page 5, lines 28-30; page 8, lines 18-21; page 8, line 38 to page 9, line 4; and page 9, lines 23-25. Support for the recitations that the hollow plastic microspheres are present in a certain proportion can be found in Examples 3 and 5 of the present specification. Claim 12 has also been amended to remove a possible species/genus issue. Therefore, no new matter has been added. Based upon the above considerations, entry of the present amendment is respectfully requested.

#### **Request for Rejoinder**

To the extent permissible, Applicants hereby request rejoinder of the non-elected process claims. These claims relate to processes for preparing the allowable elected product and thus should be rejoined.

In view of the following remarks, Applicant respectfully requests that the Examiner withdraw all rejections and allow the currently pending claims.

#### **Issue under 35 U.S.C. § 102(b)**

Claims 1, 4, and 16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Miyamoto et al. '590 (US 6,120,590). Reconsideration and withdrawal of the rejection are respectfully requested based on the following considerations.

### Legal Standard for Determining Anticipation

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

### Distinctions over the Cited Art

Applicant respectfully submits that claims 1, 4, and 16 are neither anticipated by nor rendered obvious over Miyamoto et al. ‘590.

In responding to Applicant’s previous arguments, the Examiner states, “Regarding the Miyamoto et al. reference, Applicant argues that an ink line on a piece of paper is not a coating. There is nothing in the current claims that requires the coating to cover the entire surface of the substrate.” Applicant respectfully traverses.

Applicant has attached three references which explain and define “coating” for one of ordinary skill in the art. First, the definition of “coating” is explained in “Dictionary of Paper,” 5<sup>th</sup> Edition, edited by Michael Kouris, TAPPI Press 1996, pages 70-71. The “blade coating process” is explained in Section 2, B. Contact Coaters of “The Essential Guide to Aqueous Coating of Paper and Board” as well as Chapter 3, Section I, Blade Coaters of “The Coating Processes,” TAPPI Press 1993. These references clearly explain how to apply a coating layer on a base sheet (i.e., substrate). There is no ambiguity about the fact that the coating is necessarily applied on the entire surface of the substrate.

A **printing-writing sheet** requires a very uniform coating on its surface. The uniformity of the surface of a **printing-writing sheet** is an essential characteristic for such a sheet. The use of a coating process results in a product with the uniformity quality required for a printing-writing sheet. Thus, Applicant respectfully submits that an ink line on a piece of paper as disclosed in Miyamoto et al. '590 is definitely **not** a coating.

Furthermore, in Miyamoto et al. '590, the resin emulsion used is **either in the form of a polymer binder** (latex type) such as, for example, brand name "Acronal" as described in col. 9, lines 24-31 **or in the form of hollow resin emulsion** as described in col. 9, lines 32-44.

As specified in col. 9, lines 36-49 of Miyamoto et al. '590, the amount of resin emulsion is preferably 2.0 to 10.0% by weight in terms of the weight of resin particles. Miyamoto et al. '590 specifically state that "the use [of an] ***amount exceeding 10%*** by weight intensifies the interaction with the thickener to reduce the fluidity of the ink...and ***tends to deteriorate the writing property***. Accordingly, the use amount is preferably 2.0 to 10.0% by weight in terms of the weight of the resin particles themselves" (col. 9, lines 44-49; emphasis added).

Thus, Miyamoto et al. '590 can use either conventional resin emulsion or hollow resin emulsion in an amount between 2.0 to 10.0% by weight in terms of the weight of resin particles.

In contrast, present claim 1, as amended, recites, *inter alia*:

a transparent coating layer at the surface of said substrate, formed from iridescent pigments as a mixture with at least 60% by dry weight of hollow plastic microspheres compared to the total dry weight of the coating layer contents.

Miyamoto et al. '590 fail to disclose "a mixture with at least 60% by dry weight of hollow plastic microspheres compared to the total dry weight of the coating layer contents." As stated above, Miyamoto et al. '590 only disclose a resin emulsion of 2.0 to 10.0% by weight in terms of the weight of the resin particles. In addition, Miyamoto et al. '590 do not describe nor suggest a sheet having an iridescent appearance such as recited in claim 1.

Based on the above considerations, Applicant respectfully submits that Miyamoto et al. '590 fail to teach or provide for each of the limitations recited in pending claims 1, 4, and 16. As such, Miyamoto et al. '590 is incapable of anticipating instantly pending claims 1, 4, and 16. Any contentions to the contrary must be reconsidered at present.

For completeness, Applicant also respectfully submits that Miyamoto et al. '590 fail to render the instant invention obvious since the reference completely fails to provide any teaching or suggestion to those of ordinary skill in the art that would allow them to arrive at the instant invention as claimed, including each of the limitations recited therein. Again, any contention to the contrary must be reconsidered at present.

**Issues under 35 U.S.C. § 103(a)**

1) Claims 1, 4, 6, 16, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Popat et al. '718 (US 5,407,718) in view of Miyamoto et al. '590. Applicant respectfully traverses this rejection for the following reasons.

**Legal Standard for Determining Prima Facie Obviousness**

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The Supreme Court of the United States has recently held that the teaching, suggestion, motivation test is a valid test for obviousness, but one which cannot be too rigidly applied. See *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (U.S. 2007). The Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, *ibid.*, reaffirmed the *Graham* factors in the determination of obviousness under 35 U.S.C. § 103(a). The four factual inquiries under *Graham* are:

- (a) determining the scope and contents of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating evidence of secondary consideration.

*Graham v. John Deere*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (U.S. 1966).

The Court in *KSR Int'l Co. v. Teleflex, Inc.*, *supra.*, did not totally reject the use of "teaching, suggestion, or motivation" as a factor in the obviousness analysis. Rather, the Court recognized that a showing of "teaching, suggestion, or motivation" to combine the prior art to meet the claimed subject matter could provide a helpful insight in determining whether the claimed subject matter is obvious under 35 U.S.C. § 103(a).

Even so, the Court in *KSR Int'l Co. v. Teleflex, Inc.*, *ibid.*, rejected a rigid application of the "teaching, suggestion, or motivation" (TSM) test, which required a showing of some teaching, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the prior art elements in the manner claimed in the application or patent before holding the claimed subject matter to be obvious.

Further, the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336, quoted with approval in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

*Distinctions Over the Cited Art*

As the Examiner admits, Popat et al. '718 fail to disclose the composition of the ink used. However, the Examiner relies on Miyamoto et al. '590 to overcome this deficiency.

As discussed above, Miyamoto et al. '590 do not disclose each and every aspect of claim 1 and specifically do not disclose the limitations that are deficient in Popat et al. '718.

To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (See MPEP 2143.03). As discussed above, the combination of references fails to teach or suggest all the claim limitations of independent claim 1, and those claims dependent thereon. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the instant rejection is respectfully requested.

Applicant therefore respectfully submits that claims 1, 4, 6, 16, and 17 clearly distinguish over the cited prior art.

2) Claims 1, 2, 6, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Carroll et al. '290 (US 5,934,290) in view of Mougin '470 (WO 2001/89470). Applicant respectfully traverses this rejection for the following reasons.

The Examiner relies on Mougin '470 to teach a composition used as a nail varnish. The varnish includes hollow polymer microspheres and nacre pigments.

Applicant respectfully submits that this reference does not teach the present invention. Applicant respectfully submits that a fingernail, even the artificial fingernail of Carroll et al. '290, is not the same as a sheet. Applicant further submits that nail varnish applied to an artificial fingernail is not the same as a substrate with a transparent coating layer on the surface of the substrate. Accordingly, Applicant respectfully submits that claims 1, 2, 6, and 19 clearly distinguish over the cited prior art.

3) Claims 1-5 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson et al. '047 (US 6,242,047) in view of Linton '828 (US 3,087,828). Applicant respectfully traverses this rejection for the following reasons.

As specified in col. 2, lines 5-9 of Johnson et al. '047, the coating contains **conventional inorganic pigments such as clay and calcium carbonate**. Such conventional inorganic pigments are known to opacity the coating layer. Thus, the coating of Johnson et al. '047 with conventional pigments (such as clay and calcium carbonate), to which pigments of Linton '828 would be added, would ***not*** produce a transparent iridescent coating layer such as defined in the present invention.

As recited in amended claim 1, the coating layer of the present invention is transparent (see also page 5, lines 28-35 and page 8, lines 18-21 of the present specification). The transparency of the iridescent coating layer of the present invention has been improved by calendering and by the presence of the hollow microspheres as described on page 8, line 38 to page 9, line 4 as well as page 9, line 23 to page 10, line 4 and Examples 4 and 6 of the present specification.

Thus, the paper of Johnson et al. '047 with the pigment of Linton '828 added to the coating would absolutely ***not*** produce a sheet having an iridescent appearance such as recited in amended claim 1.

To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (See MPEP 2143.03). As discussed above, the combination of references fails to teach or suggest all the claim limitations of independent claim 1, and those claims dependent thereon. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the instant rejection is respectfully requested.

Based on the remarks above, Applicant respectfully submits that claims 1-5 and 18 clearly distinguish over the cited prior art of record.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Reg. No. 58,258 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted

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Attachments: Dictionary of Paper (3 pages)

The Essential Guide to Aqueous Coating (2 pages)

The Coating Processes (2 pages)